CLAIMS

1. A method for determining the cardiac output of a patient, wherein the patient's respiration cycle is determined and an indicator is injected into the patient's bloodstream over a period of at least substantially one respiration cycle, wherein the change in the indicator value in the bloodstream downstream of the injection point is measured over a period of a number (n) of respiration cycles and the injected amount of indicator is established, wherein the cardiac output is determined on the basis of the measured change in the indicator value, the amount of indicator injected into the blood and the initial value thereof, characterized in that a first variation in the indicator value is measured over at least substantially the period of one respiration cycle, preferably directly prior to the injection, and in that the change in the indicator value caused by the injection is determined on the basis of the difference between the change in the indicator value measured over a period of n times that of the first variation and n times the measured first variation.

2. A method according to claim 1, wherein a second variation in the indicator value is measured over a period of at least substantially one respiration cycle, preferably directly contiguous to the measurement of the change in the indicator value, wherein the average of the first and the second variation is determined, which average is used for determining the change in the indicator value rather than the first variation.

3. A method according to claim 1 or 2, wherein the arterial blood pressure signal is measured, wherein the values of the stroke volume and of the cardiac output over a period of one heartbeat are calculated over a period corresponding to the number (n) of respiration cycles, wherein the average of the calculated values is determined, and wherein a proportionality constant is computed from a comparison of the average output value thus calculated and the cardiac output value determined on the basis of the change in the indicator value, after which the stroke volume and the cardiac output are multiplied by the

computed proportionality constant.

4. A method according to claim 3, wherein the determination of the cardiac output from the change in the indicator value is repeated periodically by carrying out a new injection and computing the proportionality constant.

5. Apparatus for determining the cardiac output of a patient, which apparatus comprises a processing unit having a control output for controlling injection means, a first sensor for measuring the change in an indicator value in the patient's bloodstream and a second sensor for determining the patient's respiration cycle, wherein the processing unit is arranged for measuring the change in the indicator value in the bloodstream downstream of the injection point over a number (n) of respiration cycles, establishing the injected amount of indicator and determining the cardiac output on the basis of the measured change in the indicator value, the amount of indicator injected into the blood and the initial value thereof, characterized in that the processing unit is arranged for measuring a first variation of the indicator value over at least substantially one respiration cycle, preferably directly prior to the injection of indicator, and determining the change in the indicator value resulting from the injection on the basis of the difference between the measured change in the indicator value measured over a period of n times that of the first variation and n times the measured first variation.

6. Apparatus according to claim 5, wherein the processing unit is arranged for measuring a second variation in the indicator value is measured over a period of at least substantially one respiration cycle, preferably directly contiguous to the measurement of the change in the indicator value, wherein the processing unit determines the average of the first and the second variation, which average is used for determining the change in the indicator value rather than the first variation.

7. Apparatus according to claim 5 or 6, comprising a third sensor for measuring an arterial blood pressure signal, wherein the processing unit is arranged for calculating the values of the stroke volume and of the cardiac output over a

period of one heartbeat over a period corresponding to the number (n) of respiration cycles, wherein the average of the calculated values is determined, wherein the processing unit compares the average cardiac output value thus calculated and the cardiac output value determined on the basis of the change in the indicator value and computes a proportionality constant, after which the processing unit multiplies the stroke volume and the cardiac output computed from the arterial blood pressure signal by the computed proportionality constant.